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EXPLICITNESS AND ELLIPSIS AS FEATURES OF CONVERSATIONAL STYLE IN BRITISH ENGLISH AND ECUADORIAN SPANISH

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This article examines differences in conversational style between British English (BE) and Ecuadorian Spanish (ES) which can be the source of communication conflict among speakers of these two languages in telephone conversations, and presumably in other types of interaction.

In a previous article (Placencia 1992), I pointed towards the existence of marked differences between these two languages in terms of the politeness strategies speakers employ to manage *mediated* telephone conversations, that is, those conversations where one or both participants act as intermediaries of the interaction and where they are not usually aware or are not sure of each other's social or occupational identity. I focused on the prevalence of indirectness in BE in contrast with the use of indirect and less indirect strategies accompanied by a display of deference in ES.

Here I look at the language of mediated (MT) and non-mediated (NMT) telephone conversations and examine one feature that interacts with indirecteness, i.e. the degree of explicitness participants employ to realize similar acts or moves in the two languages. In general, BE speakers appear to display a preference for the use of explicit utterances where the strategy employed remains clear; this is also the case in NMT interactions in ES; in contrast, the use of elliptical or abbreviated forms where the strategy used becomes ambiguous is very common in MT interactions in ES.

Differences in the use of explicit and elliptical utterances are interpreted as reflecting that, in certain types of interactions, Ecuadorians favour a style which could be characterized as fast and deferential, but rather abrupt to the English, whereas the latter appear to favour a less hurried style which emphasizes the expression of consideration rather than deference.

Background and aims

The study of *conversational* (cf. Tannen 1979) or *communicative* (cf. Scollon and Scollon 1981) style, of which the present analysis is an instance, can be defined as the examination of pragmatic or discourse analytic aspects of language that characterize different types of interaction in the language(s) and culture(s) under scrutiny. It has its roots in Gumperz's (1977, 1978) work on interethnic communication.

Gumperz (1978) exmined interactions between native English and Indian and Pakistani workers in London, and found that the numerous misunderstandings that occurred between them could not be attributed to a lack of knowledge of grammatical aspects of the language on the part of the Indian and Pakistani group, but to differences in the 'contextualization' or 'communicative' conventions which guided the interactions of the two groups of participants. He found, for example, that the Indian and Pakistani speakers, in contrast with the English ones, used different paralinguistic and prosodic cues (e.g. different patterns of stress, intonation and loudness), and that they used and interpreted interjections such as *yes* and *no* differently. His findings led him to suggest that contextualization conventions are

associated with ethnic background, that is, that knowledge of these conventions is 'ethnically determined,' and that the study of differences in conventions is needed in order to gain a better understanding and contribute to the improvement of inter-ethnic communication.

Under his influence, in particular, the focus within speech act studies, which developed in the 70's, began to shift from English to other languages and cultures. Differences in the linguisitc procedures employed to realize similar speech acts in different languages and cultures began to emerge as well as other differences concerning the culture.specificity of certain speech act. At the same time, the development of work in the area of politeness and cooperation (Lakoff 1973; Grice 1975; Brown and Levinson 1978, 1987; and Leech 1983) provided a framework within which the use of different linguistic strategies could be interpreted and explained.

Blum-Kulka et al. (1989) give a comprehensive review of the different strands of work that have developed in the study of speech acts. The first one they describe centres around the examination of *situational variables*, as in the work carried out on requests in American English (Ervin-Trip 1976). A second strand they consider is the one that focuses on *culture specificity of speech act behaviour*, as in Tannen's (1979) work on indirectness in American English and Greek. Concerning Spanish, Price's (1987) work on telling illness stories in Ecuadorian Spanish can be located within this strand. A third strand they examine is the contrastive study of different discourse levels of language use which they refer to as *contrastive pragmatics*, and which includes the study of turn-taking mechanisms in different languages as in Saario's (1980) study of verbal and non-verbal aspects of discourse interaction in Finnish and English, and work in the area of politeness phenomena as in House and Kasper's (1981) study of politeness markers in English and German. With regard to Spanish, Walters' (1979) study on *requesting* in Spanish and English, and Mark and Gould's (1992) work on verbal directions in American English and Peninsular Spanish fit within the category of contrastive studies.

Finally, Blum-Kulka et al. consider the area of *interlanguage pragmatics* which includes the study of different aspects of native and non-native perception and performance in relation to pragmatic and discourse analytic matters, as in the work of Olshtain and Weinback (1986) on complaints by native and non-native speakers of Hebrew. Concerning Spanish, Walter's (1980) study on requests in English and Spanish and García's (1991) work on *disagreeing* and *requesting* by Americans and Venezuelans fall within this strand of research.

The present study can be said to correspond to Blum-Kulka et al's third strand of research in that it involves the examination of pragmatic aspects in two systems contrastively. It differs from most studies, however, in that the focus is the language of telephone conversations rather than face-to-face interactions. Two previous pioneering studies on pragmatic aspects of telephone talk are Godard's (1977), where telephone conversation beginnings in French and American English were compared, and Sifianou's (1989), where telephone conversation beginnings in British English and Greek were examined. Here, I look at various turns in telephone interactions, which include different types of requests and replies, rather than the initial turns only. In addition, I focus on a feature that has not received attention in pragmatic studies, i.e. the use of explicit and elliptical utterances to realize different acts or moves in telephone conversations, and its effect on the style of interaction in the languages under examination.

Explicitness and ellipsis and the present study

Within the boundaries imposed by grammatical constraints in Spanish and English, participants can make use of full utterances to realize different acts or moves, in which case the strategy employed (i.e. indirectness or directness) remains explicit, or abbreviated ones, with the effect in the latter case, that the strategy employed can become ambiguous (i.e. is not clear which strategy is being employed). An instance of the former is (1) below, and (2) is an example of an abbreviated utterance.

(1) A aló[1]
telephone greeting
C buenas tardes si fuera tan amable se encuentra Patricia^ (full request)
*Good afternoon if you were so kind is Patricia to be found^*[2]

(2) A aló
telephone greeting
C buenos días el señor Augusto Flores por favor (abbreviated request)
good morning the Mr Augusto Flores please

I refer to full utterances as *explicit* utterances and I use the term *elliptical* to refer to abbreviated forms.

I have borrowed the term *ellipsis* from the fileds of grammar and syntax (cf. Quirk and Greenbaum 1973) and stylistics (cf. Halliday and Hassan 1976; Leech and Short 1981); within this last area, ellipsis has been extensively examined as a type of cohesive device employed to tie utterances together.

Ellipsis involves the deletion of one or more elements of an utterance which are understood, nevertheless, because they are recoverable from the text or the context, or as Halliday and Hassan (1976: 143) put it, 'an elliptical item is one which, as it were, leaves specific structural slots to be filled from elsewhere.' 'Elsewhere' can be either preceding text, in which case there is *anaphoric* ellipsis, or the 'context of situation,' in which case there is *exophoric* ellipsis. Halliday and Hassan regard only the former as a type of cohesive device.

In the telephone conversations examined, both *anaphoric* and *exophoric* cases of ellipsis were found. An instance of the latter is (2) above where the context of the situation has to be appealed to in order for the hearer to interpret this utterance as a request to speak to the intended answerer; here, there is no preceding text apart from the answerer's telephone greeting. *Anaphoric* ellipsis, on the other hand, can be found in replies to these requests, as in (3), where the missing words (i.e. *John is here*) can be recovered from the original question.

(3) C is John there
A *yes* hold on

It is in relation to exophoric ellipsis, however, where the differences between BE and ES appear to be more striking. It is used frequently in MT interactions in ES, whereas it seems to be of rare occurrence in BE in similar interactions.

The use of ellipsis has been explained in relation to various factors, one of which is the avoidance of repetition (cf. Quirk and Greenbaum, 1973). This is also considered by Leech and Short (1981: 246) who discuss the use of ellipsis in fiction in relation to what they call the *principle of reduction*'... whereby language allows us to condense our messages, *avoiding the repeated expression of repeated ideas*' (my emphasis). In fact, they consider two guiding reduction principles: 'Do not reduce where reduction leads to unclarity. Otherwise, reduce as much as possible" (1981: 247). In con-

versation, however, these principles appear to be overridden by politeness considerations (cf. Leech's [1983] *Politeness Principle*).

Efficiency and economy are two other related factors which have also been stressed in connection with ellipsis. De Beaugrande and Dressler (1981: 69), for instance, consider the balance between what they refer to as 'compactness' and 'clarity' needed in communication and the function of ellipsis in achieving or damaging this balance:

> Utilizing texts with no ellipsis consumes time and energy. At the other extreme, very heavy ellipsis cancels out any savings of time and energy by demanding intensive search and problem solving.

They also regard the 'situation' as a factor to take into account in deciding whether ellipsis is appropriate and thus whether its use will result in efficiency or not. They say, for example, that 'a situation such as sending a telegram will elicit heavily elliptic texts that are nonetheless comprehensible' (1981: 68). Concerning telephone talk, De Beaugrande and Dressler's 'situation' seems to be an important factor to consider in the analysis of ellipsis. MT conversations that relate to services appear to constitute a certain kind of interaction where ellipsis is desirable in ES as the aim seems to be efficiency, that is, saving time in the here-and-now, in contrast with NMT interactions where economy is not a central concern, or in contrast with telephone conversations in BE in general.[3]

Economy in the use of ellipsis is also considered by Leech (1983) in relation to Halliday's (1970) textual function of language (i.e. language functioning 'as a means of constructing a text') (cited in Leech, 1983: 56). Leech proposes two principles which interact with each other in connection with this function – the principle of economy and the principle of clarity. He says that 'if one can shorten the text while keeping the message unimpaired, this reduces the amount of time and effort involved both in encoding in decoding' (1983: 67). Ellipsis is one of the procedures that is employed to achieve this. However, in relation to Halliday's interpersonal function (i.e. language as an expression of one's attitude and an influence upon the attitudes and behaviour of the hearer) Leech also considers Grice's (1975) *Cooperative Principle* (and maxims) and proposes a *Politeness Principle* (and maxims) to interact with it.

Finally, within Brown and Levinsons's (1978, 1987) theory of face, ellipsis has been associated with group-membership marking strategies (i.e. with positive politeness strategies which appeal to the hearer's desire to be approved of). Brown and Levinson state that 'because of the reliance on shared mutual knowledge to make ellipsis comprehensible, there is an inevitable association between the use of ellipsis and the existence of in-group shared knowledge" (1987: 111). They go on to say that the use of conventionally indirect requests (as is the case with most telephone-specific requests), "... normally a feature of negative politeness, if marked by ellipsis crosses over into positive politeness ..." as in '*Mind if I smoke?* (1987: 111-112). The use of ellipsis in ES, however, does not seem to achieve intimacy. On the contrary, it appears to create distance as it gives requests a more formulaic character; this, in turn, seems to have the effect of making utterances sound more formal and more deferential. The use of full utterances in NMT interactions, on the other hand, appears to be a way of showing consideration for, and perhaps interest in the other participant by allocating him/her time (i.e. by avoiding rushing through the interaction), as well as by avoiding ambiguity concerning the type of strategy employed.

The more frequent use of ellipsis in ES in MT interactions as compared with BE and its avoidance (particularly of exophoric ellipsis) in NMT ones is thus explained here in relation to considerations of politeness which guide the reduction of utterances in conversation.

Analysis

In this section I examine the linguistic realizations of various moves in telephone conversations in the two languages[4] which illustrate the occurrence or absence of ellipsis, as discussed above. The moves examined are requests to speak to the intended answerer (IA), requests for confirmation of answerer's (A) identity and corresponding replies, requests for self-identification and corresponding replies, requests to the caller (C) to hold the line and corresponding replies and requests to leave a message. Some of the examples given correspond to conversations where the participants do not know each other or where they are not sure of each other's identities (i.e. *mediated conversations*), and others to interactions where participants are in a kinship or friendship relationship (i.e. *non-mediated conversations*).

Requests to speak to the IA

Requests to speak to the IA in MT interactions in ES can be presented in full as in (4) and (5) below, or they can be abbreviated or ellipted, as in (6) and (7):

(4) C puedo hablar con el señor Patricio Valencia por favor (full request)
can I speak to the Mr Patricio Valencia please

(5) C me communica con el señor Patricio Valencia por favor (full request)
you put me through to the Mr Patricio Valencia please

(6) C con el señor Patricio Valencia por favor (ellipted request)
with the Mr Patricio Valencia please

(7) C el señor Patricio Valencia por favor (ellipted request)
the Mr Patricio Valencia please

In requests (4) and (5), the use of a more or less indirect strategy (i.e. a request for permission to speak to the IA in the first case, and an assertion rather than a command in the second one) can be identified. On the other hand, in (6) and (7), the strategy employed can be said to be ambiguous as the actual request has been left out. These requests could be said to stem from either (4) or (5) or from other more or less indirect procedures employed in ES. However, in an abbreviated form, the requests take the appearance of commands similar to those that might occur in face-to-face interactions, such as *la sal por favor/ the salt please* meaning *pásame la sal/ pass me the salt.*

Other instances of abbreviated requests of this type are the following:

(8) C hágame el favor *María Cristina Valencia^*
*do me the favour Maria Cristina Valencia^*

(9) C tenga la bondad *con el ingeniero Patricio Valencia^*
*have the kindness with the Engineer Patricio Valencia^*

What is characteristic of these requests is the inclusion of either titles and the politeness formula *por favor*, as in (6) and (7) or the use of deferential politeness formulae, as in (8), or both, as in (9).

In NMT interactions in ES, on the other hand, requests of this type are usually produced in full, as in (10) and (11):

(10) C está por ahí Julita
is Julita around there

(11) C ... dígame por si acaso si está Eugenia
... tell me by any chance is Eugenia there

(12) C hazme el favor de hacerle acercar un minutito
do me the favour of getting her for a little minute

Likewise, in BE, requests of this type are usually produced in full, as in (13) and (14):

(13) C *is Andrea there* please

(14) C *can I speak to Sue Cox* please

Abbreviated or contracted utterances such as *Mr Patricio Valencia please,* although possible from a grammatical point of view, are not appropriate in BE since they fail to be polite. As some of my British informants commented, short requests of this type would sound 'abrupt,' 'curt' and 'as though the person was in a hurry' and thus 'rude'.

Abbreviations or elliptical forms seem to be acceptable (although not very frequent) in BE only when people are requesting to be put through to extension numbers or departments (i.e. objects rather than people) as in (15) below. Even in these cases, however, it is common to find full requests as in (16).

(15) C extension 4576 please

(16) C could you put me through to the health centre please

In other words, requests to speak to the IA appear to have various constituent elements[5] some of which are essential in one language in general, and essential in some types of interaction only in the other. In MT interactions in ES, the request itself does not appear to be as essential, and thus can be left out or ellipted whereas titles and/or politeness formulae cannot. In contrast, the utterance of the request (i.e. usually an indirect request) appears to be fundamental in interactions where participants know each other.

In BE, the request itself appears to be one of the key elements together with the neutral politeness formula *please* in MT interactions, and often on its own in NMT ones. Titles, on the other hand, do not appear to be used as commonly as they are in MT interactions in ES and there is no deferential formula to be employed in the place of *please* in requests of this type.

Concerning replies to these requests, in ES, abbreviated forms appear to be used in MT interactions, as in (17), and full forms in NMT ones, as in (18).

(17) A ya un ratito
straight away one little while
(I'll just go and get her hold on just a moment)

(18) A sí aquí está (.) ya le hago acercar no
yes here she is (.) straight away I'll get her to the phone no
(yes she is I'll just go and get her okay)

In fact, in (17) there is no explicit indication that the IA is in; this has to be inferred from the promise to go and fetch him/her which is given instead.

In BE, abbreviated forms such as (19) also occur; nevertheless, fuller forms are very common too, as in (20):

(19) A *yes* just a moment

(20) A *yes she is* just a second

Requests for confirmation of identity and corresponding replies

Requests which seek confirmation of the other participant or family's identity with the force of *are you X?* also display the use of elliptical forms in ES as in the following examples:

(21) C aló buenas tardes Marianita^
*telephone greeting good afternoon Marianita^*
(... is that Marianita)

(22) C casa de la familia Valencia^
*house of the Valencia family^*
(is that the house of the Valencia family)

Occasionally, people also utter full requests.

(23) C aló *hablo con Marianita^*
*telephone greeting am I speaking with Marianita^*

(24) C aló *es la casa de la familia Valencia^*
telephone greeting is that the house of the Valencia family

In BE, on the other hand, the utterance of full requests appears to be the norm as in this example:

(25) C hello *is that Franz*

With regard to the replies given to these inquiries, only abbreviated forms appear to be employed in ES, as in (26) and (27), whereas in English fuller utterances as in (28) and (29) are also commonly used.

ES

(26) A sí con el mismo (from *sí habla con el mismo*)
yes with the same (from *yes you are speaking with the same*)

(27) A sí con ella (from *sí habla con ella*)
yes with her (from *yes you are speaking with her*)

BE

(28) A yes it is

(29) A it is

Requests for self-identification

If the caller does not reveal his identity first, the answerer might ask him/her to do so. The use of abbreviated forms can again be observed in ES, as in (30) and (31), in contrast with the use of fuller forms in BE:

ES

(30) A sí con quién (from *con quién hablo*)
yes with whom (from *with whom am I speaking*)

(31) A de parte de quién por favor (from *de parte de quièn le digo que llama*) on whose behalf please (from *on whose behalf shall I tell him/her you are calling*)

BE

(32) A who's speaking please
(33) A who's calling please
(34) A who shall I say is calling
(35) A who's this speaking

In fact, when BE speakers are queried about the degree of politeness involved in these requests, a feature that recurs is again that utterances need to be full to sound polite. For instance, in relation to (35) above, one of my informants said that *who's this* alone would sound rude because it was too short. Similarly, another one thought that (34) above was more polite than (33). He said the latter was too short and he explained that fuller utterances were more polite because they gave the other participant more time to think of a reply.

Requests to hold the line

In both languages, requests to C to hold the line so that A can go and fetch the IA or check whether he/she is in are often presented in an elliptical form as in the following examples:

ES

(36) A un momentito por favor
one little moment please

(37) A un ratito por favor
a little while please

BE

(38) A just a moment please
(39) A just a second please

However, the use of full utterances to realize this move, such as *hold on a moment please*, appears to be more common in BE as compared to ES where similar requests (i.e. *espere un momentito/hold on a moment*) are of rare occurrence. As a matter of fact, there appear to be more utterances to realize this move in full in BE than in ES (e.g. *hold on, hang on, hold the line, can you hold the line, can/could you hold/hang on*, etc.). In addition, the utterances that sometimes accompany these requests (i.e. promises or offers to go and see whether the IA is in or to fetch him or her) are

usually abbreviated in ES, as in (17) above or (40) below, and presented explicitly in BE as in (41), (42) and (43):

ES

(40) A ya un momentito (from *ya le veo un momentito*)
straight away one little moment (from *I'll go see him/her straight away just a moment*)

BE

(41) A I'm not sure of she's in I'll have a look hold on
(42) A just a moment I'll go and get him
(43) A I'll just check for you just a minute

In BE, as one of my informants told me, it is as though it was necessary to say clearly what one is doing step by step (e.g. *I'll go* and *get him*) so that the other person knows what is happening. In contrast, in ES, the message C gets seems to be that of immediacy (i.e. *I'll fetch X straight away*), which can be interpreted as an expression of deference. In other words, the rules governing requests of this type appear to be different in the two languages – *Be considerate and explain what you are going to do* seems to be the rule in BE, and *Be prompt and deferential* in MT interactions in ES. In NMT ones, as in (18) above, on the other hand, more explicitness is also found in ES.

Requests to leave a message

For requests of this type, here is a large number of elliptical utterances that can be employed in NMT interactions in ES:

(43) C ... quisiera pedirle una fineza^(.) decirle que de Cepal le hemos llamado
... I would like to ask you a finesse^(.) to tell him that we have called him from Cepal

(44) C le voy a dejar un recadito que por favor le diga ...
I'm going to leave him a little message that you please tell him ...

(45) C quiero pedirle un favorcito^
*I want to ask you a little favour^*

A sí^
*yes^*

C *que me dé diciéndole que ...*
that you telling him for me that ...

Request (43) could be said to stem from the command form *tiene que decirle que/you have to tell him that ...*, or the more indirect form es *necesario/importante, etc. decirle que .../ it's necessary/important, etc. for you to tell* him that ... All these utterances convey the idea of the request being something imperative. With ellipsis, as in (43), this idea is conveyed without the speaker having to utter any actual command words, or even without him/her having to directly address the other participant (i.e. *decirle* is an infinitive form).

Requests (44) and (45), on the other hand, appear to stem from utterances that put the speaker's wishes at the front of the request as in *quisiera/quiero/necesito que por*

favor le diga .../ I would like/want/need you to please tell him. With ellipsis, the speaker conveys his/her wishes in a covert way, and, at the same time, ellipsis saves time and effort.

In NMT interactions, on the other hand, explicit requests are usually produced, as in (46) and (47).

(46) C disráasle a la Gladys que ...
you will tell Gladys that ...
(47) C ... si usted la ve le dice que ...
... if you see her you tell her that ...

In BE, requests of this type are usually uttered in full in both types of interactions, as in the following examples:

(48) C can you tell him Chris phoned
(49) C please tell her I need to speak to her urgently it's ...

Conclusion

The examination of various turns in telephone conversations in ES and BE, namely, requests to speak to the IA and corresponding replies, requests for confirmation of identity and corresponding replies, requests for self-identification, requests to hold the line and corresponding replies, and requests to leave a message, displayed the more frequent use of elliptical forms in ES in those conversations where participants are not acquainted with each other. In contrast, the use of explicit forms appeared to prevail in those conversations where participants know each other in ES and in both types of conversations in BE.

The use of elliptical and explicit forms was discussed in relation to speaker's motivations behind their choices. Concerning ES, it was suggested that apart from saving time and effort, one of the advantages the use of ellipsis presents to speakers of ES is that they can express their wishes and issue commands or quasi-commands in a covert manner, that is, by omitting the use of the actual command verbs or the explicit placing of their wishes at the forefront of their requests. On the other hand, it was suggested that the use of explicit forms in NMT conversations in ES and in BE in general, appears to be motivated by speakers' need to avoid ambiguity in relation to the type of strategy employed, and thus show consideration.

The use of these features was also discussed in relation to the existence of different notions of politeness that appear to be in operation in different types of interaction in relation to different goals of participants. The data examined suggested that while efficiency (i.e. saving time in the here-and-now) and the expression of deference appear to be central in MT interactions in ES, the expression of consideration seems to override the interests of economy in NMT interactions in ES and in both types of interactions in BE. Different rules governing the reduction of utterances in telephone conversations in the two languages are thus proposed. A general principle of reduction for BE and NMT conversations in ES can be stated as follows: *Do not reduce where reduction leads to unclarity or where the addressee does not get the consideration he/she is due.* On the other hand, the principle for MT interactions in ES would be as follows: *Reduce as much as possible as long as clarity and the expression of deference are maintained.*

The notion of essential and optional *constituent elements* in politeness terms was also proposed to allow for comparisons between the two types of telephone

conversations considered and between the two languages and cultures. Elements that convey deference (e.g. deferential terms of address, deferential politeness formulae and the conveyance of immediacy), for example, were found to be essential constituents of various telephone requests in MT conversations in ES; in contrast, explicit indirect request forms were usually found to be the essential constituent element of telephone-specific requests in BE. The use of explicit request forms (usually indirect ones as well) was also found to be an essential element in NMT interactions in ES.

Finally, possible communication conflict between speakers of BE and ES in MT conversations and presumably in other types of interaction is predicted stemming from inappropriate use of explicit and elliptical forms and participants' lack of knowledge of the different notions of politeness underlying the use of these forms. It is expected that explicit requests uttered by English participants in MT interactions in ES will sometimes result in lengthy, perhaps burdensome and somewhat disrespectful requests (i.e. if no relevant deferential politeness formulae and terms of address are employed). However, more serious offence is probably expected to be caused if ES speakers employ abbreviated forms to issue their requests in BE.

Further studies in ES and BE are needed, however, to establish whether the pattern of use described here can be generalized to different types of telephone conversations as well as other types of interaction. It would also be useful to consider paralinguistic matters such as intonation, which were left out in the present study due to practical constraints.

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NOTES

1 An orthographic transcription of English and Spanish utterances is given throughout. The symbol ^ is employed to mark rising intonation. This symbol is used to give the reader some idea of the way some requests were uttered. The symbol (.) marks pauses.
2 A literal translation of ES utterances is given throughout so that the reader can see the actual linguistic mechanisms employed by ES speakers. Occasionally, a pragmatic translation is given in parentheses.
3 I refer to conversations between people who are acquainted with each other (e.g. friends and relatives) and to service-encounter type of conversations rather than business ones. The latter category can include conversations with considerably different goals and rules of interaction. For instance, conversations between travel agents (see Placencia 1991) focus on clarity and efficiency for which purpose a code is employed to refer to transactions in a fast and clear way. Conversations of this type, however, are beyond the scope of the present study.
4 The data employed correspond to recordings of authentic telephone conversations in ES and data obtained through participant and non-participant observation as well as through informal interviews on usage in BE (see Placencia 1991).
5 I have borrowed this term from generative grammar (cf. Horrocks 1987, for instance); however, I use it to refer to optional and essential elements in an utterance in *politeness terms*.

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COGNITION AND CONATION IN SECOND LANGUAGE ACQUISITION THEORY

Richard Young and Kyle Perkins

This paper attempts to integrate several different theories of the second language learning process into a general theory of the human learner. The general theory, which we call the cognitive/conative model, has been developed in the field of instructional psychology and educational measurement by Snow (1990) and Mislevy (1993). It recognizes five types of mental construct: conceptual structures, procedural skills, learning strategies, self-regulatory functions, and motivational orientations. Learning in the model is defined as a change in one or more of these constructs, each of which may be characterized by an initial state, a desired end state, and learning-development transitions between the two. The cognitive/conative model effectively explains individual differences among second language learning processes. It also suggests an architectural view of second language proficiency in which advanced learners do not simply have more of what beginners lack but rather the factors underlying the linguistic performance of beginners and advanced learners are different and interact in different ways.

INTRODUCTION: FROM PARTICULAR TO GENERAL THEORIES

The past few years have witnessed the rapid growth of theories of second language acquisition. Collections of articles in *TESOL Quarterly* (Bialystok 1990, Hatch, Shirai and Fantuzzi 1990, Long 1990, McLaughlin 1990a, Schumann 1990a, and Sokolik 1990) and *Studies in Second Language Acquisition* (Clahsen 1990, Gasser 1990, Tomlin 1990, and White 1990) as well as McLaughlin's book on the subject (McLaughlin 1987) have demonstrated the scope and diversity of SLA theory construction.[1] In addition, debates among proponents of competing theories (R. Ellis 1990, Gregg 1990, Tarone 1990, Sharwood Smith 1991) have shown how incompatible some of those theoretical positions appear to be. Our purpose in the present paper is not to introduce yet another theory in what is already a crowded enterprise. Instead, we will attempt to integrate diverse, competing, and – we believe – partial views of second language acquisition within a general theory of human learning. The general approach which we adopt is that of cognitive psychology, one which has developed greatly in scope and applicability, especially in the field of educational measurement, during the past decade.[2]

In attempting to relate theories of second language acquisition to a more general theory of human learning, we borrow from a philosophical view of theory construction in the social sciences advanced by Kaplan (1964). Kaplan argued that social-scientific theories may be distinguished in at least two ways: (a) in terms of the range of their applicability and (b) in terms of the constructs to which the theories make reference. A theory may have a greater or smaller range of applicability, which is defined by the type of phenomena with which it deals. Thus, a theory of human behavior is of smaller range than a theory of animal behavior and, similarly, a theory of second language acquisition is of smaller range than a general theory of human learning. The extent to which a general theory applies to a particular subset of phenomena depends on whether relevant characteristics of those phenomena are shared

with other phenomena within the range of applicability of the more general theory. In the case of learning theory, a general theory must apply to a heterogeneous assortment of linguistic and non-linguistic learning. For example, it must apply to other types of language learning such as primary language acquisition and the learning of artifical languages, as well as to the learning of motor skills such as riding a skateboard, the learning of cognitive tasks such as solving problems in Euclidean geometry, the learning of social behavior such as forming relationships with others, as well as the learning of moral values. Although there are clearly specific differences of domain among these learning phenomena, there is increasing consensus among cognitive psychologists that the *processes* involved in human learning in any domain are broadly similar. O'Malley and Chamot (1990: 217), for example, argue that, "language is a complex cognitive skill that has properties in common with other complex skills in terms of how information is stored and learned." In our view, it is illuminating to consider what the process of learning a second language has in common with learning processes in other non-linguistic domains.

In addition, every theory dermarcates in Kaplan's term an "explanatory shell" for the phenomena with which it deals. The shell contains all that is considered relevant in the theory of a phenomenon. Kaplan suggests that such a shell constitutes an effectively isolated system, consisting of the things that are both necessary and sufficient for an explanation, according to the theory, of the phenomenon in question. Alternative theories of the same phenomenon may have radically different explanatory shells. In the case of theories of second language acquisition, innate knowledge of Universal Grammar is part of the explanatory shell of what Sharwood Smith (1991) calls "inner" theories of second language acquisition, whereas variable interlanguage performance is not. Conversely, variable interlanguage performance is a central part of what Sharwood Smith calls "outer" theories of SLA such as variable competence, while innate knowledge is not. The two theories effectively constitute isolated systems since the intersection of their explanatory shells is empty.

A related view of the relationship between multiple theories of SLA has been advanced by Beretta (1991). Beretta has pointed out that SLA theories may be either complementary or in opposition. Theories are complementary if they differ in the scope of the phenomena which they attempt to explain, while they are in opposition if they are alternative explanations of the same phenomenon. Beretta claims that we currently have no way of articulating the relationship between complementary theories. However, one principled way in which it *is* possible to elaborate the relationships among complementary theories is by reference to a more general theory. Moreover, such a general theory also provides a means of evaluating opposing theories and resolving debates among proponents of opposing theories.[3] Thus, viewing the current state of theory construction in second language acquisition from the vantage point of a higher-order theory of human learning helps us, first, to map the different domains of complementary SLA theories, and, second, to evaluate competing theories of the same domain by determining whether the SLA theories are ad hoc or whether they are consistent with the higher order theory.

The plan of our argument in this paper is, first, to survey some established findings in second language acquisition with the aim of setting out the increasingly apparent diversity of mental representations underlying different aspects of second language production and learning. We will then introduce a general theory of human learning developed within the domain of educational measurement, which we call the cognitive/conative model. We will argue that, unlike current SLA learning theories, the cognitve/conative model is capable of handling the diversity of mental representations that are apparent in second language learning. Moreover, it provides a systematic account of how mental structures develop and change in learning and how certain types of mental structures interact, influence each other, and are transformed. We will then consider some of the consequences of this model for learning in general

and for second language learning in particular and evaluate its heuristic potential for future research in second language acquisition. In conclusion, we will argue that many current theories of second language acquisition are complementary. They have dealt more or less adequately with certain parts of the general model, but no one SLA theory is extensive enough to account for the multiplicity and diversity of second language learning processes.

LEARNING IN SECOND LANGUAGE ACQUISITION THEORY

Discoveries in interlanguage research have led researchers to a greater awareness of the diversity of types of knowledge underlying interlanguage phenomena. We will review three sets of findings in interlanguage development which exemplify that diversity: first, we will review evidence in favor of a vector model of second language development according to which interlanguage development involves steady increases in the learner's knowledge or skills; second, we will examine support for the view that development involves restructuring of knowledge and interaction between one type of knowledge and another; and last, we will consider evidence that different subsystems of interlanguage knowledge develop in a modular fashion, independently of one another.[4] We will argue that theoretical explanations of these three phenomena in SLA have so far been largely ad hoc, and that the scope of current SLA theories is not adequate to explain these different kinds of learning. We will also argue that different kinds of knowledge and complex interrelationships among them underlie most, if not all, second language development. Any general learning theory will have to explain the different learning processes which we sketch in the following sections.

THE VECTOR MODEL OF SECOND LANGUAGE LEARNING

The simplest model of interlanguage development is that a learner's knowledge of or skills in a second language uniformly increase in one direction from less to more. In this model the learner accretes new knowledge – gradually accumulating more and more knowledge of the target language – and becomes more skillful – gradually increasing in speed of comprehension and production. In this model, which has been called the vector model of learning (Young 1991), a second language learner begins with no knowledge of the facts of the target language and gradually accumulates knowledge until, ideally, the target is reached. In a parallel development, the learner's speed of processing during comprehension and production accelerates from very slow to native-like levels. The essential characteristic of vector learning is that knowledge or behavior changes in one direction only and there is no back-sliding or U-shaped behavior.[5]

ACCRETION

Instances of the process of accretion of new knowledge in a second language can be found in the acquisition of vocabulary and conventionalized language. For example, Broeder and his colleagues (Broeder, Extra, and van Hout 1989, Broeder, Extra, van

Hout, Strömquist and Voionmaa 1988) studied the growth over time in the spoken vocabulary in Dutch as a second language of two native speakers of Turkish and two native speakers of Moroccan Arabic. In measurements of vocabulary growth the four adult informants showed an increase in their vocabulary over three monthly cycles of data collection. In a comparable study, Yorio (1989) reports several cross-sectional studies of the use of conventionalized language by adult learners of English as a second language. Yorio found that in the written discourse of his subjects, advanced learners made more extensive use of conventionalized language than beginning learners, a finding which agrees with other studies of adults' oral language (e.g., Schmidt 1983, Shapira 1978).[6]

These two instances of growth in the lexicon exemplify a linear monotonic accretion of the word hoard or the store of formulaic expressions. Examples of such a process are, however, quite rare in the literature. Sometimes the addition of even one new word can cause the reorganization of a semantic domain, as Bartlett (1978) and Carey (1978) observed when they taught new color terms to three-year-old children learning their first language. Development of certain parts of a second-language lexicon may also not be a monotonic function of time or exposure in the same way that the Broeder studies have shown. In a cross-sectional study of adult Japanese learners of English, Shirai (1990) shows that the acquisition of collocations involving the verb *put* is not a linear process and in fact there is a significant U-shaped acquisition curve, indicating that learners' performance is error-free at an early stage, then deviates from the target norm and finally becomes error-free again at a later stage.

PROCESSING SPEED

Learners' increase in processing speed in comprehension and production tasks is an aspect of learning which is similar to accretion in the sense that both types of learning involve a monotonic increase of some cognitive variable. However, the actual variable – in this case, processing speed – is a procedural skill clearly different in nature from the declarative knowledge of vocabulary or conventionalized speech which have been used as examples of accretion.

Studies of the influence of the speed of NSs' speech on NNS's comprehension and retention have provided some quite clear evidence that an increase in the processing speed in listening comprehension tasks is one aspect of second language learning. Conrad (1989) investigated the recall of English sentences by three groups of listeners: NSs, high proficiency NNSs, and intermediate proficiency NNSs. Conrad argues that short-term retention is an important factor in comprehension and her study shows that retention processes speed up with increasing proficiency in a second language perhaps due to an increase in target language short-term memory capacity. Griffiths (1990) also found that speech rate was a factor in NNSs' comprehension. Both average and slow speeds of delivery produced higher comprehension scores than the fast speed. However, there was no difference between the comprehension scores produced by slow and average speeds of delivery.

Conrad's study is cross-sectional in design and shows that learners at higher overall levels of proficiency recall spoken input faster than learners at lower levels. Taken together with Griffiths' findings on the increased comprehension brought about by reducing speed of input, it is reasonable to infer that processing of spoken input during comprehension increases with overall proficiency in a second language.

Comprehension is, of course, only one part of speech processing; a more readily observable process is speech production. Nonetheless, despite the accessibility of

the phenomenon, to our knowledge, only one study of the speed of processing in speech production by NNSs has been published. Lennon (1990) reports a longitudinal study of four advanced learners of English whom he recorded narrating a picture story during the second week of their stay in England and again 21 weeks later. Although Lennon's study is of a small sample, it shows that an increase in processing speed in spoken second language production is a clear benefit of increased exposure to and practice in the language. Lennon also points out that the increase in rate of speech is brought about by a reduction in the number of pauses rather than an increase in the rate of articulation, a point which is also made by Griffiths (1991) in a review of speech rate studies of comprehension in SLA.

Accretion of lexical knowledge and increase in speech processing speed on both comprehension and production tasks are both instances of what we have been calling vector learning. In both these cases learning is evidenced by a linear change in one kind of knowledge – declarative knowledge structures in the case of the lexicon or procedural skills in the case of comprehension and production speed.

SECOND LANGUAGE LEARNING INVOLVES RESTRUCTURING KNOWLEDGE

If second language learning were evidenced in *all* areas of interlanguage development by the gradual accretion of new knowledge or by a monotonic increase in processing speed, then explaining second language acquisition would be a fairly straightforward (and perhaps rather uninteresting) undertaking. However, there is considerable evidence that, in many cases, new information acquired from the environment interacts with existing knowledge to cause a reorganization or transformation of a whole subsystem of knowledge.

REORGANIZATION

McLaughlin (1990b) has reviewed restructuring phenomena which have been observed in primary language acquisition in the areas of inflectional morphology, lexis (Keil 1983), and dicourse (Karmiloff-Smith 1985). Reorganization of linguistic knowledge in primary language acquisition occurs in three phases according to Karmiloff-Smith, characterized by distinct patterns of speech which reflect the child's underlying cognitive structures. In the first phase, "behaviour is predominantly stimulus-driven, the child's goal being to match as closely as possible the adult input," (ibid.: 80) and in addition, each linguistic representation is stored independently of others. The second phase is characterized by making relations between what, up to this point, had been independently stored representations. At this stage syntactic generalizations are made which may be over-extended and thus incorrect as far as the adult grammar is con-cerned.[7] The result may be a pattern of U-shaped behavior in which development involves transitional states of knowledge and behavior which appear to be further from the target than either initial or mature states. Phase 1 thus involves stimulus-driven or bottom-up learning, while phase 2 involves top-down control. Phase 3, according to Karmiloff-Smith,

> involves the balanced interaction between the two. The explicitly defined representations resulting from phase 2 are used to reevaluate the input data. Any externalized markings not part of the input model are deleted.

> Newly updated representations are then stored, which terminates the 3-phase cycle. (ibid.: 83)

In the second language acquisition literature, several accounts of restructuring exist and it is remarkable how closely many of them fit into the Karmiloff-Smith 3-phase model of cognitive reorganization. One case is described by Huebner (1985), in his longitudinal study of an adult Hmong learner of English. Huebner's informant's production of the definite-article-like form *da* goes through three distinct phases. In the first phase, his production of *da* appears to be consistent with the topic-comment structure of his first language and Givón's (1984) quantity universal of discourse structure. In the second phase, however, he shifts to a more syntacticized organization in which all noun phrase environments are "flooded" with *da*. Finally *da* is removed from certain environments and the form begins to function in a way very similar to standard English *the*.[8] It would appear that phase 2 and 3 of this learner's use of *da* can be accounted for by the cognitive processes of control and integration of internal representations as hypothesized by Karmiloff-Smith. Huebner's informant's phase 1, however, differs in important respects from the data-driven phase of primary language acquisition described by Karmiloff-Smith. In contrast with primary language acquisition, learning in the initial stages of adult second language acquisition seems to be strongly conditioned by transfer from L_1 and/or universal processing principles which may come into effect when communicative resources are drastically limited.

Another phase model of second language acquisition involving universal processing principles at the early stages and later integration of input target language data is the acquisition of word order in German as a second language described by Meisel and his colleagues (Clahsen, Meisel and Pienemann 1983, Meisel, Clahsen and Pienemann 1981). In this model, learners progress through five stages involving, in sequence, (a) canonical SVO word order, (b) adverb preposing, (c) verb separation, (d) inversion, and (e) verb —> end. Development from one stage to the next in this model involves restructuring knowledge by replacing a transfer-based or universal language processing strategy with rules of the target language. In this model, the role of new knowledge derived from the learner's environment is to supplant existing innate knowledge; learning of new rules involves the simultaneous unlearning of pre-existing rules. The fact that these stages in the acquisition of German word order are invariant for all learners suggests not only that innate language processing principles are operating (as Meisel and his colleagues propose) but also that each innate strategy is replaced in turn by target language rules.

The cognitive processes underlying Karmiloff-Smith's phase 2 and phase 3 may also be found in the interaction between syntactical and lexical learning processes in the acquisition of L_2 syntax. In a cross-sectional study of two groups of adult ESL learners' grammaticality judgements, Ard and Gass (1987) identify differences between structural patternings of the intermediate and advanced group. Ard and Gass found that their intermediate group performed in a more syntactically uniform manner in their judgements of syntactically similar patterns while the advanced group distinguished among sentences according to the particular lexical items involved. The advanced group also differentiated among syntactically similar sentences on the basis of meaning, a process which was not apparent in the intermediate group. This study may also be interpreted in the light of the cognitive processes in Karmiloff-Smith's phase 2 and phase 3 since it appears that the syntactic overextensions of the intermediate group are caused by top-down control whereas the finer distinctions made by the advanced group are consistent with a balanced interaction between top-down syntactic processes and stimulus-driven lexical learning.

TRANSFORMATION

A rather different instance of restructuring, which we call transformation, occurs in second language acquisition when declarative knowledge structures become proceduralized through practice. Declarative knowledge structures are those which are potentially conscious and are accessed only slowly, while procedural knowledge is accessed very fast and its operation is unconscious. For instructed learners in particular, much knowledge of the second language is initially declarative and only becomes proceduralized and thus accessible for on-line task like fluent speech by dint of much practice. The distinction between controlled and automatic knowledge in SLA was pointed out some time ago by Bialstok (1978), but what is most interesting about the restructuring of controlled knowledge into automatic knowledge is that an automatic skill can be put to completely different uses from a controlled concept. As Young (1989) has suggested, it may be that the acquisition of sociolinguistic competence in a second language – namely, the ability to vary speech according to who one is talking to, what one is talking about, and other socially relevant features of spoken interaction – only develops after the learner's knowledge of the relevant variable forms has become proceduralized.

SECOND LANGUAGE LEARNING IS MODULAR

Instances of restrucuring – either reorganization of existing knowledge or tranformation of one kind of knowledge into another – are well documented in the SLA literature and a review (McLaughlin 1990b) has brought this kind of learning process to the attention of scholars. However, it is not the only kind of learning process which occurs in second language acquisition. We have argued above that some kinds of L_2 learning involve a linear accretion of knowledge or increase in processing speed without restructuring. There also exists the possibility that knowledge is modular, that is, certain knowledge structures develop completely independently of one another and do not interact until some late stage of development, if at all. Thus some parts of a learner's second language knowledge may be affected by unique developmental processes while other parts are not affected at all.

One example of the modularity of second language learning processes is the multidimensional model advanced by Meisel and his colleagues and previously referred to above (Meisel, Clahsen, and Pienemann 1981, Meisel 1983). In this model, the stages in the acquisition of word order in German as a second language follow a fixed sequence, which may be accounted for, as we have seen, by the gradual unlearning of innate processing strategies and their replacement by target language rules. These stages are fixed and invariant; however, at each stage, learners' knowledge of German function words such as articles, prepositions, and copula appears to vary and to be subject to influences from differing motivational orientations for different learners. According to to multidimensional model, learners differ in the degree to which they are oriented toward the norms of the target language or, alternatively, toward communicative effectiveness. Orientation toward target norms, or "elaborative simplification," is indicated by oversuppliance of grammatical functors. On the other hand, orientation toward communicative effectiveness, or "restrictive simplification," is indicated by deletion of functors in obligatory target contexts.

Meisel (1983) reports a factor-analytic study which attempted to relate the kind of simplification present in learners' speech to certain social-psychological orientations toward the people, culture and society of the German host community. Meisel concludes that, "there is good evidence ... that the kind of interlanguage variety a learner

uses within one stage of an ordered sequence of developmental stages does, in fact, depend on the social setting and on resulting attitudes and motivation" (1983: 153).

In this example it appears that one part of learners' knowledge of a second language – word order – is subject to cognitive processes of restructuring involving replacement of innate knowledge structures with structures from the target language. Simultaneously, however, another part of learners' knowledge of the second language – functors such as copula, etc. – appears to be influenced by motivational orientations which have no effect on word order.[9] Motivational orientations and the restructuring of conceptual knowledge are thus seen in the multidimensional model to be quite independent learning processes exerting separate effects on different subsystems of a learner's interlanguage. This example shows that second language learning processes may be modular and proceed independently of one another.

From the preceding review, we conclude that knowledge of a second language can change – in other words, learning can happen – in a variety of ways: (1) by accretion of knowledge or monotonic increase in processing speed; (2) through interaction between existing and acquired knowledge which leads to restructuring of part of the knowledge system; and (3) parts of learners' knowledge of the second language may effectively be modular – independent, that is, of other parts and subject to completely different developmental processes. There is, that is to say, no *single* way in which learning can happen, nor any simple theory which can account for these different learning processes. Although we may seek theoretical simplicity, in the words of Whitehead's dictum (1926: 163), we would be wise to distrust it. Nonetheless, we believe that there is a general theory of learning which can accommodate the different learning processes which we have sketched for second language learners, and it is to a presentation of this theory that we now turn.

A COGNITIVE/CONATIVE MODEL OF LEARNING

In the field of educational measurement, a model of human learning which recognizes the richness and diversity of the cognitive and affective processes underlying learning is beginning to emerge. For example, Mislevy (1993) describes a learner's developing knowledge of a domain in terms which are reminiscent of the preceding discussion of second language development.

> Increasing comptence in a substantive area need not be reflected as uniformly increasing the chances of success on all tasks. Patterns of smooth increase may be observed for certain people on certain sets of tasks, in certain phases of development ... Discontinuous patterns of change begin to appear as the scope of tasks becomes broader, as the range of development becomes greater, and as the experience of [learners] becomes more diverse (30).

In traditional measurement theory, a learner was assumed to be a collector of facts and skills, each of which was added piecemeal to the learner's repertoire. The new view of the cognitive structures underlying performance and learning which is emerging, however, stresses the interrelationship between different kinds of knowledge, including facts, automatic procedures, metacognitive skills, and schemata. In the cognitive model presented by Mislevy (1993: 27), performance is possible through automaticity, namely the availability of well-practiced procedures that no longer demand high levels of attention; metacognitive skills, namely the strategies by which mental and physical actions are selected, monitored, and – when necessary –

switched; and schemata, namely the mental structures that relate factual knowledge and procedural knowledge. In this cognitive – or knowledge-based – view, although the outcome of learning is observable by means of changes in behavior, these changes in behavior are a surface indication of a change in mental states such as the automatization of procedures, the acquisition and enhancement of metacognitive skills, and the construction, revision, and replacement of schemata.

The clearest and most detailed picture of the architecture of knowledge which Mislevy has outlined is provided by Snow (1989a, b, 1990). Based on research in instructional psychology over the past two decades, Snow's approach details the content of three different kinds of cognitive knowledge: conceptual structures, procedural skills, and learning strategies. By conceptual knowledge Snow refers to declarative knowledge structures, "facts," misconceptions, and alternative conceptions which are accessible mostly by conscious introspection. By procedural skills, Snow refers to the kind of knowledge structures which, after practice, become automatic and underlie fast, skilled performance. And learning strategies are specialized ways of processing information that enhance its comprehension, learning or retention; such strategies are often deeply rooted in personal styles of abilities of a learner but they may also be learned.

However, Snow goes further than many purely cognitive theorists by incorporating conative characteristics of learners into his model. By conation, Snow refers to the mental faculties of volition or motivation which are normally accessible to researchers by questionnaire or introspective techniques. His conative factors include self-regulatory functions and motivational orientations. By self-regulatory functions, Snow recognizes that the individual's mindful control over information processing, or metacognitive awareness, may affect how learning takes place. Motivational orientations are distinctly conative in nature and include motivation for continued learning and achievement, interest in the subject matter, and a sense of confidence and self-efficacy as a learner.

There are thus five different categories of learning constructs in Snow's model: conceptual structures, procedural skills, learning strategies, self-regulatory functions, and motivational orientations. Some of these have to do with purely cognitive information processing such as conceptual structures and procedural skills, and others, such as motivational orientations and self-regulatory functions, are more conative in nature. Snow sees the distinction between cognition and conation as one of degree rather than a dichotomy and one of his factors – learning strategies – is both cognitive (because strategies influence information processing) and conative (because learning strategies are potentially under the influence of volition and motivation). Both cognition and conation are equally important parts of Snow's picture of the human learner. Indeed, a model of the learner which did not take conative factors into account would be of little use in explaining individual differences in aptitude for learning in educational settings, as Snow points out (1989b: 436). In second language acquisition, the role of conative factors has benn emphasized in theories such as Schumann's acculturation model (Schumann 1978), Gardner's socio-educational model (Gardner 1988), and in a review of motivational research in SLA (Crookes and Schmidt 1991).[10]

For each cognitive or conative category in Snow's model, there exist a number of different factors which are either characteristic of aptitude before learning takes place, characteristic of the achievement of a desired end state, or indicative of a developmental transition between initial and final states. Within the purely cognitive category of conceptual structures, for example, a naive theory is an aptitude construct, the refinement of that theory to accommodate new information is a transitional construct, and the ability to articulate underlying principles of knowledge is an achievement construct. At either end of this developmental axis, Snow distinguishes between distal and proximal constructs of both aptitude and

achievement. Distal aptitude constructs are those relatively stable characteristics of persons which are difficult to alter in the short term. For example, in their research on motivation, Dweck and Leggett (1988) identify learners as either "performance oriented" or "mastery oriented." Performance-oriented learners are motivated to do well on a particular task but have a view of their own abilities as fixed, while mastery-oriented learners are motivated to increase their learning by confronting challenging tasks and believe that their own abilities can be changed by personal effort. Constructs such as performance and mastery orientation, as well as others such as need for achievement or fear of failure, are treated in Snow's model as distal constructs, that is to say they are relatively stable initial characteristics of learners. On the other hand, proximal aptitude constructs are those which are relatively malleable and can be addresses by instruction, such as learner's interest in the subject they are studying (cf. Crookes and Schmidt 1991).

At the other end of the continuum, proximal *achievement* constructs are the short-term goals of learning, while distal achievement constructs are long-term outcomes which are rarely, if ever, addressed in instruction. For example, within the general area of learning strategies, a proximal achievement construct would be the achievement of flexible use of a range of different learning strategies, while a distal goal might be the achievement of a capacity for autonomous learning.

A map of the constructs involved in Snow's model is given in Figure 1. The figure shows various learning constructs classified according to the five categories of the model – conceptual structures, procedural skills, learning strategies, self-regulatory functions, and motivational orientations. Different constructs are also shown as proximal or distal initial states of the learner, proximal or distal desired end states, or learning transitions between initial and end states.

While the cognitve/conative model of the learner is well founded in research in instructional psychology, the level of detail and specifity of the theory as it is represented by the cognitive/conative map in Figure 1 goes beyond what has currently been established by empirical investigation. As Snow (1990) remarks,

> Distinctions within the ... matrix are rather arbitrary ... some constructs straddle categories, and some could easily be shifted to other positions. Continuing research would be expected to revise this matrix substantially, collapsing distinctions between some constructs, changing the positions of some, and adding other new and old constructs. (458).

However, although the details of the cognitive/conative model are in some cases unclear and speculative, the model itself is broad enough to encompass a wide range of learning phenomena in different subjects domains. In the following pages we will consider, in turn, how the cognitive/conative model accounts for the three different learning processes that we have identified in second language acquisition – vector learning, restructuring, and modularity.

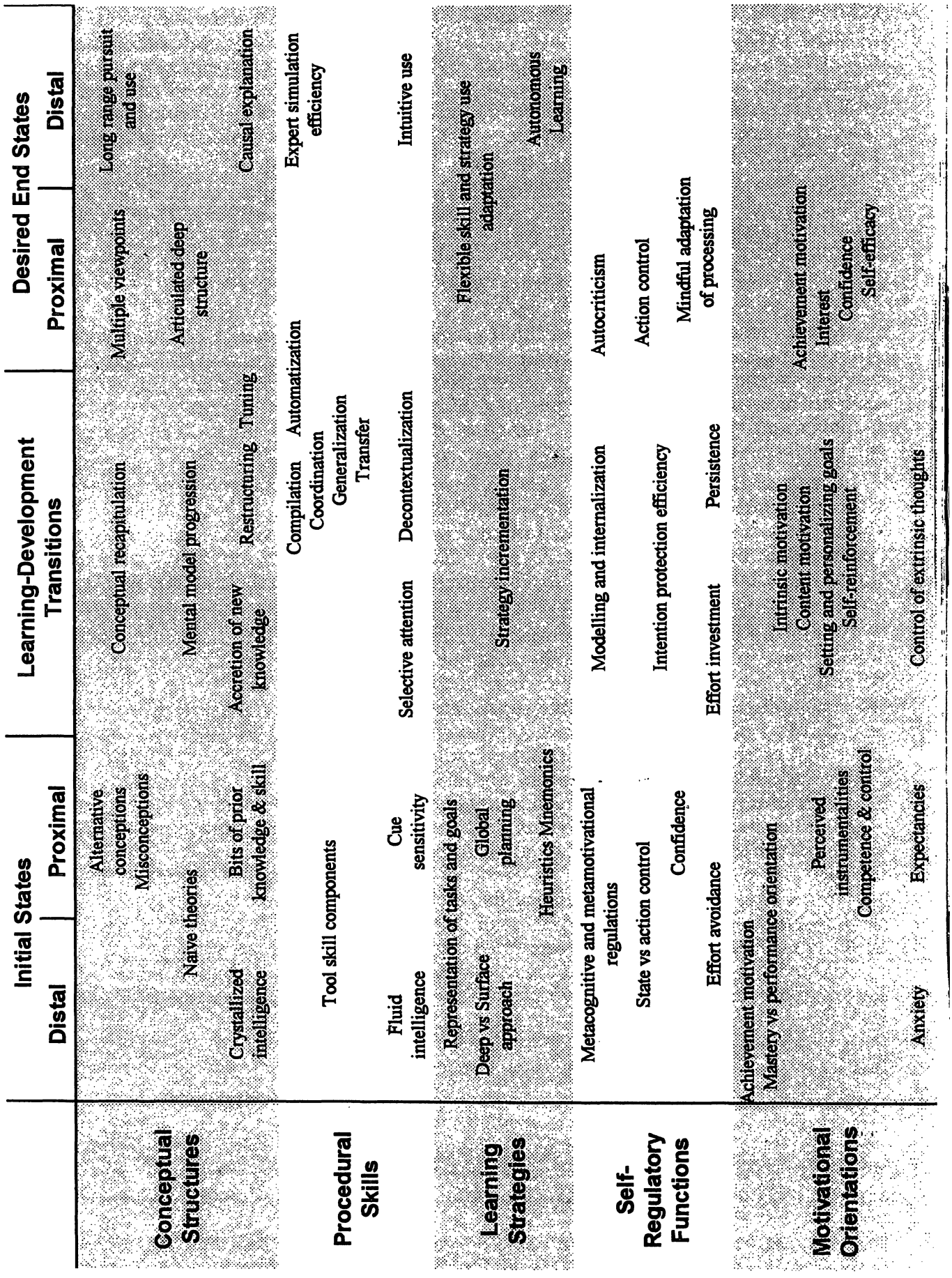

Figure 1. Components of a cognitive/conative model of learning (based on Snow 1990: 457)

VECTOR LEARNING IN THE COGNITIVE/CONATIVE MODEL

The three processes of vector learning, restructuring, and modularity which exist in second language learning are represented in different ways in Figure 1. The developmental transitions within each of the first three categories in this figure are closest to what we have been calling vector learning. Thus, accretion of new knowledge is seen as a learning-development transition for conceptual structures; procedural skills are compiled and automatized, resulting in faster processing; and learning strategies may initially be limited to simple mnemonic and heuristic strategies but incrementation of a wide range of new strategies eventually leads to flexible use of strategies and adaption of existing strategies to new learning situations. Development in each of these three areas clearly exemplifies the processes of accretion or linear increase in a learning variable without backsliding that we have identified in vector learning.

It is less apparent, however, that developments in the conative areas follow the same vector path. The learner's capacity for self-regulation may transform an initial tendency to avoid effort into greater investment of efort and persistence, leading eventually to a conscious (mindful) adaption of effort to situations where it is most needed. In the area of motivation, initial constructs include expectancies about learning, transitional constructs involve the setting and personalizing of learning goals, and desired end states include an achievement motivation, interest in the subject matter, and confidence. In both these cases development seems to involve a change in the conative structures rather than a linear increase in some variable.

RESTRUCTURING IN THE COGNITIVE/CONATIVE MODEL

As we have seen, restructuring in second language learning takes two forms – the reorganization of one type of knowledge or the tranformation of one type of knowledge into another. Both forms of restructuring are evident in the cognitive/conative model. In Figure 1, in the area of conceptual structures, naive theories exist initially, then they are reorganized during learning. (See the constructs of mental model progression, restructuring and tuning under the heading of learning-development transitions in Figure 1.) The desired end state is articulated deep structure – a conscious awareness of underlying principles. The kind of cognitive restructuring that Karmiloff-Smith (1985) described in primary language acquisition and that we have seen evidence of in second language acquisition appears as initial and transitional states of conceptual structure learning. (We have not reviewed evidence that articulated deep structure is a desired end state in SLA since such a claim is still quite controversial; see Schmidt 1990.)

What Figure 1 does not show, perhaps because they are as yet poorly understood, are the interactions between constructs within different categories which lead to a transformation of one type of knowledge into another. Such interactions have, however, been proposed in several areas. Neves and Anderson (1981: 65), for example, have detailed a mechanism whereby conceptual structures are transformed into procedural skills. They propose that every time an activity such as speech production or comprehension requires access to conceptual structures, these structures have to be retrieved into working memory in order to be used. This process of retrieval and use they term, "proceduralization of declarative knowledge." They propose that the proceduralization mechanism creates a new procedural skill which has the conceptual structure incorporated into it. Once established, this new procedural skill obviates the need for the slow retrieval of information from long term memory. This simple mechanism thus effectively merges conceptual structures into procedural skills. Pro-

cedural skills are further developed by practice until production becomes rapid and automatic in a way which parallels the development of other skilled behavior.

A further example of how different types of knowledge in the cognitive/conative model may interact is provided by an account of the interaction between affect and learning proposed by Schumann (1990b, 1991). Schumann reviews studies of the psychology of appraisal and the neurobiology of emotion which appear to show that the initial processing of sensory stimuli creates positive or negative affect. There is apparently a neurological pathway for stimulus projections which pass first through the limbic system – the amygdala, hippocampus, thalamus, and hypothalamus – before they reach the basal forebrain. Affective processing of stimulus projections is believed to occur in the limbic system where the processing mechanism involves matching incoming projections with affective schemata derived from previous experience with similar stimuli. Positive affect creates a desire to attend to the stimulus, while negative affect generates a desire to avoid attending to the stimulus situation. Learning only occurs when new stimuli are attended to, and thus the initial affective processing influences how conceptual structures may be elaborated and procedural skills may be compiled.

The relationship between affect and learning proposed by Schumann may be interpreted in the light of the cognitive/conative model in the following way. Learners' motivational orientations affect the development of their conceptual structures and their procedural skills. Learners' motivational orientations are based on previous experience with similar stimuli. If the orientation is positive, the incoming stimuli are attended to and help elaborate concepts and compile skills; if the orientation is negative, then incoming stimuli are not attended to and thus there is less possibility for the elaboration of learners' conceptual structures or for the practice of procedural skills. The mechanism which brings about this interaction between motivational orientation on the one hand and conceptual structures and procedural skills on the other is the relationship between emotion and attention (cf. Lazarus and Smith 1988).

Finally, research and instructional approaches in the field of second language learning strategies are based on a proposed interaction between the two categories of self-regulatory functions and learning strategies. In the cognitive/conative model, learning strategies include global planning for learning, mnemonic devices, problem solving heuristics, "mapping and structuring tactics that use key words or other cues detected in reading or listening," and the metacognitive processes of comprehension monitoring or hypothesis generating and testing while learning (Snow 1990: 459). Although strategic and tactical differences among learners appear to be deeply rooted in learners' personal styles or abilities, many second language acquisition researchers have suggested that learning strategies can be changed and augmented by learners themselves through conscious attempts to regulate their own thought and behavior (Brown 1989, Cohen 1990, G. Ellis and Sinclair 1989, O'Malley and Chamot 1990, Oxford 1990). The attempts to train learners to develop their existing strategies and augment their strategic repertoire which are beginning to be used in programs of second and foreign language instruction clearly involve encouraging self-regulation in order to change learning strategies – thus effecting an interaction between two types of knowledge in the cognitive/conative model. A typical process of learner training is described by O'Malley and Chamot (1990) as follows:

> Students are first made aware of their own mental processes, then they are provided with a rationale for strategy use and continued practice with strategies for different tasks, and finally the cues to use the strategies are reduced so that students can become autonomous strategy users (207).

In terms of Figure 1, mindful adaption of processing – an achievement construct of self-regulation – influences strategy incrementation, leading to flexible skill and strategy use – both strategic constructs.

MODULARITY IN THE COGNITIVE/CONATIVE MODEL

While interactions undoubtedly exist between different knowledge constructs in the cognitive/conative model, it is also true that the model shows clearly the diversity of mental representations. Propositional knowledge exists alongside other mental structures such as procedural knowledge, learning strategies, and the more conative structures which we have called motivational orientations and self-regulatory functions. The map of cognitive/conative space is essentially a representation of separate mental structures or faculties, as Fodor (1983) has described it.

Modularity is represented in the cognitive/conative model by the five distinct knowledge types. With few exceptions, each type of knowledge is treated as independent of the others, although as we have seen there are more interactions than the model appears to show. Since each type of knowledge is treated separately in the cognitive/conative model, it provides a particularly good representation of the modularity of second language learning processes. According to the multidimensional model discussed earlier, learning processes in German as a second language appear to operate on two separate levels of conceptual structures and motivational orientation. The development of word order rules follows the progression from naive theories through mental model progression to restructuring and tuning of internal representations to input which are characteristic of the learning of conceptual structures. On the other hand, motivational orientations clearly affect variation in patterns of morphological simplification.

In summary, the model of the learner which we have presented is a rich and detailed map which may account for many learning phenomena which have been until now treated separately by second language acquisition researchers. Motivation, self-regulation, learning strategies, skill formation, and conceptual development have been treated separately in separate strands of SLA research. The cognitive/conative model of learning not only shows that they can be woven together but suggests possible interactions between different constructs. In addition, the three characteristics of second language knowledge which we have identified – vector learning, restructuring, and modularity – are illuminated and explained by the cognitive/conative model. We turn now to a discussion of the heuristic value of the model, that is, what areas of future research it suggests and what predictions it makes about second language learning.

SOME CONSEQUENCES OF THE COGNITIVE/CONATIVE MODEL

Some of the consequences of the new model of the learner that we have presented are being explored in current theory and practice in educational assessment. Two areas of research in educational assessment which have particular relevance for second language acquisition are the notion of the architecture of proficiency and the examination of differences in the mental structures of experts and novices in a particular subject domain.

THE ARCHITECTURE OF SECOND LANGUAGE PROFICIENCY

An individual learner's knowledge of language and language learning is best thought of as a cognitive/conative map. As Mislevy puts it, learner's knowledge is "a complex constellation of facts and concepts, and the networks that interconnect them, of automatized procedures and conscious heuristics ...; of perspectives and strategies, and the management capabilities by which the learner focuses his efforts" (1993: 28). Such an individual's knowledge cannot be represented (or compared with that of another individual) on a single dimension of proficiency. For example, one learner may have a highly developed conceptual knowledge of the second language but very little procedural skill in using it; another learner may command an intuitive use of the language but be unable to articulate the rules that underlie his production. Again, one learner may be capable of mindful adaption of processing while at the same time experiencing a high degree of anxiety in learning and using a second language; another learner may be incapable of regulating his own actions and internal states but still show a high degree of achievement motivation. From these few examples it becomes apparent that the model explains very well individual differences among learners in terms of their differing cognitive/conative maps, or what we may call "architectures of proficiency." However, comparisons among learners and of the same learner at two points in development become vastly more complex than when a learner's knowledge could be represented by one score on a traditional test.[11] Since this is the case, the search for an index of second language development – something like mean length of utterance used by researchers in primary language acquisition – which has been proposed by some SLA researchers (Hakuta 1976, Larsen-Freeman and Strom 1977, Larsen-Freeman and Long 1991) is not to be undertaken lightly, if at all.

Research is currently under way aimed at ways of measuring the complexity of language proficiency (cf. Mislevy, 1993). More research is needed on individual differences in developmental processes in which relevant variables on all five dimensions of the cognitive/conative map are measured. More research is needed on how one type of knowledge is transformed into another through, for example, proceduralization of declarative knowledge or the effect of self-regulation on learning strategies. Furthermore, we need to know how knowledge of different types interacts in language production and comprehension. For example, are motivational orientations related to the compilation of procedural skills? And how far can self-regulation affect motivational orientation?

One important consequence of this approach is that second language instruction may be seen to play a role which is vastly more profound than simply the provision of comprehensible input to learners, as had been proposed by earlier SLA theories (Krashen 1985, Krashen and Terrell 1983). Research is needed on how teachers, teaching procedures, and teaching materials can best enhance second language learners' learning strategies, motivational orientations, and capacities for self-regulation.[12] Up until now research on the effect of instruction on second language acquisition has concentrated almost entirely on learners' cognitive development. In the model we have proposed here, cognition is only part of the picture and much more needs to be known about the conative effects of instruction.

COMPARISONS BETWEEN NOVICES AND EXPERTS

According to the architectural view of proficiency which we have adopted, comparisons of the performance of novices and experts are likely to reveal that experts do not simply have more of what novices lack but that the factors underlying their

performance are different and interact in different ways. A comparison of the performances of novices and experts is likely to provide the most direct insight into the nature of developmental differences. To date, such research (mostly in domains other than second language learning) has produced the following set of characteristic differences between expert and novice performances.

Mislevy (1993: 27-28) compares novice and expert knowledge in the cognitive areas of conceptual structures and procedural skills and underscores the more complex organization of experts' conceptual knowledge:

1. Experts control more facts and concepts than novices and have richer interconnections among them.
2. Experts often organize their knowledge in schemata possessing not simply more connections but qualitatively different ones.
3. Experts also differ from novices by having automatized, through study and practice, procedures that were once slow and attention consuming.

McLaughlin, meanwhile, stresses that expert language learners (such as proficient multilinguals) are more flexible than novices (such as monolinguals and incipient bilinguals) in restructuring their linguistic knowledge and process learning tasks at a more abstract level than novices:

4. Expert language learners show greater plasticity in restructuring their internal representations of the rules governing linguistic input. (McLaughlin 1990b: 125)
5. Experts restructure the elements of a learning task into abstract schemata that are not available to novices, who focus principally on the surface elements of a task. Thus experts replace complex sub-elements with single schemata that allow more abstract processing. (Nation and McLaughlin 1986: 42)

Finally, Snow (1990: 459) stresses experts' principled understanding of a domain as well as a more flexible approach to problem solving than novices:

6. Experts display articulated deep understanding of a domain, including the ability to reason and to explain in causal terms, and to adopt multiple viewpoints about a problem or phenomenon.

Comparisons of novice and expert behavior in domains other than second language learning are highly suggestive or research that needs to be done in SLA.[13] Comparisons of this type would give us useful and empirically validated information on the characteristics of the "good language learner" and on language learning strategies appropriate for different stages of development. At present, it is fair to say that most of our knowledge about the *efficacy* of language learning strategies is either speculative or else inferred from research on learning strategies in other domains.

In the preceding discussion we have attempted to show that the cognitive/conative model of the learner is a powerful heuristic in suggesting ways in which second language acquisition research may progress. We have considered two immediate consequences of the model: the complex architecture of second language proficiency and the insights into learning which may be derived from comparing the performances of novice and expert language learners. We will now conclude our discussion by returning to the issues which were raised at the outset of this paper concerning the relationship between particular theories of second language acquisition and the more general model of the human learner that we have put forward.

CONCLUSIONS: FROM THE PARTICULAR TO THE GENERAL AND BACK AGAIN

As we have presented it, the cognitive/conative model of the human learner has a far wider range of applicability than any one theory of second language acquisition. This is true in two senses. In the first sense, the cognitive/conative model is in principle applicable to human learning in any subject domain and of any tape such as conceptual learning, skill learning, learning of social behavior, and of moral values. One interesting area of investigation within the scope of the theory are the similarities and differences between learning processes in different subject domains: For example, how similar or how different are the learning of a second language and the learning of arithmetic or cooking? In addition, the general model allows us to make comparisons between learning a second language and learning social behavior such as forming relationships. We may yet be surprised to discover how similar the two are.[14]

In the second sense, the cognitive/conative model has a wider range of applicability *to second language phenomena* than any existing second language acquisition theory. In most cases, SLA theories have limited their range of applicability to one or, at most, two of the five mental faculties that the cognitve/conative model encompasses. In many SLA theories, such as Universal Grammar, McLaughlin's restructuring, and variable competence models such as those of R. Ellis (1985, 1989) and Tarone (1988), second language competence is equated with a configuration of conceptual structures. These theories attempt to delimit the nature of these conceptual structures and to explain how they are elaborated in second language development. However, none of these competence theories attempts to deal with other mental faculties of conation. The interaction between controlled and automatic processing mechanisms in second language production and comprehension has been described in Bialystok's (1978) theory of second language acquisition but, again, this is an information processing theory which makes no mention of conative influences on the process. On the other hand, motivational orientations are the central concerns for Gardner's scio-educational model (Gardner 1988) as well as for Schumann's pidginization/acculturation model (Schumann 1978), but these make only partial reference to information processing.

However, at least two SLA theories have developed more extensive ranges of application. In the area of learning strategies, much descriptive work has been done by, among others, Pickett (1978), Willing (1988), and Stevick (1989) and a more theoretical approach has been taken by O'Malley and Chamot (1990). O'Malley and Chamot recognize that learning strategies may enhance or inhibit learning in the areas of conceptual structures, procedural skills, self-regulation, and motivational orientations. The explanatory shell of their theory is thus larger than other SLA theories and indeed, as we have seen, they advocate explicit learner training to enhance the self-regulatory capacities of individuals. In addition, Schumann has extended the scope of the pidginization/accuturation model to include cognition as well as conation (Schumann 1990a) and, as we have seen, has proposed a neurological mechanism whereby motivational orientations may affect cognition.

Given that the range of application of most SLA theories is limited to a small part of the whole cognitive/conative map of the human learner that we propose, we believe that a higher-level theory is necessary in order to integrate increasingly disparate work. A similar point has been made by Hatch et al. (1990) who maintain that,

> findings and the theories used to account for findings have addressed only small, isolated parts of the total language learning picture ... it is time to begin integrating modules in our research, to develop and test integrated models for second language data, and to develop integrated explanatory theories to explain these data (697).

We believe that the cognitive/conative model that has been described here is a worthy candidate for such an integrated theory.

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NOTES

1 Larsen-Freeman and Long (1991: 227) esitmate that at least forty different theories of second language acquisition have been proposed.

2 A fully developed theory of second language acquisition necessarily includes both a theory of language and a theory of human learning. While acknowledging that a theory of linguistic compentence is essential to a theory of how that competence develops in a second language, we deliberately limit our discussion here to the learning part.

3 There are, of course, other ways of appraising competing theories of the same phenomenon, some of which Beretta (1991) mentions, including the requirements that theories should account for major accepted findings (Long 1990), fit the data well, be consistent with related theories, clear in their predictions, heuristically rich (McLaughlin 1987), and falsifiable (McLaughlin 1987, Spolsky 1989).

4 Rumelhart and Norman (1978) also recognize three modes of learning; accretion, tuning, and restructuring. In the framework presented here, accretion is treated as part of vector learning, a phenomenon separate from tuning and restructuring. However, we treat the latter two of Rumelhart and Norman's modes of learning as two separate aspects of cognitive restructuring. See, in particular the discussion of Karmiloff-Smith's 3-phase model, in which restructuring is phase 2 and tuning is phase 3. Our notion of restructuring is broader than Rumelhart and Norman's in another respect, as we consider transformation of one knowledge type into another as an instance of restructuring.

5 See page 144 for a discussion of U-shaped behavior, a learning phenomenon involving transitional states of knowledge and behavior which appear to be further from the target than either initial or mature states.

6 As is well known, accretion of conventionalized language is *not* a process in the acquisition of a second language by children. According to Wong Fillmore (1977), children make extensive use of prefabricated, formulaic language early in interlanguage development and at a later stage analyze prefabricated routines into their component parts.

7 Although children's overregularization errors have been widely reported in the literature on first language acquisition, Marcus and Pinker (1990) have challenged the conventional explanation of the phenomenon in terms of restructuring. They note that overregularization occurs in less than 8% of irregular past tense verbs for most children. They suggest that children do not restructure their knowledge of past tense forms of irregular verbs. Rather, they store only the correct form which they have heard in parental input but sometimes forget it.

8 This description of the change in the use of *da* over time is necessarily compressed and oversimplified. Full details of the process are to be found in Huebner (1983: 129-148; 1985: 148-150).

9 Although Meisel (1983) reports no clear relation between developmental stage and motivational orientation, Pienemann has claimed that the kind of simplification used (and, by implication, the learners' motivational orientation) affects the rate of the learner's progress through the developmental word-order stages. According to Larsen-Freeman and Long's (1991: 282) summary of Pienemann (1986), those learners employing restrictive simplification in their morphology came early to the developmental word-order stage of adverb preposing, while those learners employing elaborative simplification tended to avoid it.

10 In SLA the term "affective" is a more common currency than "conative." However, we maintain Snow's term in this paper because it is clearly defined and because it contrasts explicitly with cognitive factors.

11 It is true that traditional language proficiency tests often report a number of partial scores in addition to an overall score. TOEFL, for example, reports separately candidates' scores on the three sections of Listening Comprehension, Structure and Written Expression, and Vocabulary and Reading and the English Language Testing Service reports five scores on individual modules of Reading Comprehension, Listening Comprehension, Study Skills, Writing Tasks, and an Interview. However, the distinctions between sub-scores on tests such as these are concerned essentially with behavior in different linguistic domains (reading, writing, etc.) rather than differences of learning process.

12 A similar call for research on motivation in second language learning outside the conventional framework of integrative/instrumental motivation has been made by Crookes and Schmidt (1991).

13 At present we are aware of only a small number of SLA studies which involve explicit comparisons of novice and expert performance and cognitive processes (Nation and ;McLaughlin 1986, Nayak, Hansen, Krueger and McLaughlin 1990, and Ramsay 1980). On the other hand, in the domain of biomedical education, Feltovich, Spiro and Coulson (1993) have done ground-breaking work on analyzing and contrasting the different learning characteristics of novice and advanced medical students and have proposed a set of 12 design principles for effective instruction at the advanced level.

14 It is an indication of the isolated state of current SLA theory that little is known about domain-specific differences between learning a second language and learning in other domains.

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